

REMARKS

Claims 1-5 are all the claims pending in the application. Claim 1 has been amended based on, for example, the paragraph bridging pages 8 and 9 of the specification.

Applicants respectfully submit that with the entry of the proposed amendments, the present application will be in condition for allowance.

Since the amendments raise no new issues, entry of the above amendments is respectfully requested.

I. Response to Rejection of Claims 1-5 under 35 U.S.C. § 103(a)

Claims 1-5 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Wenz Jr. (US 4,731,004).

Applicants respectfully traverse the rejection.

Claim 1 is directed to a method of forming a resin film from a first resin for a middle portion to form a resin film main body of the resin film and a second resin for edge portions to form both side edge portions in a crosswise direction of the resin film, the method comprising the steps of: joining the first resin and the second resin in such a manner as to enclose only both side edges in the crosswise direction of the first resin for the middle portion which is formed as a cross-section convex shape with the second resin for the edge portions which is formed as a cross-section concave shape and to form a boundary of the first resin and the second resin; and extruding the joined resins through an extruding die to form the resin film. The first and second resins are joined by being fed through a feed block which includes a joining part having a specific cross-sectional shape in such a manner as to enclose only both side edges in the crosswise direction of the resin film main body which is formed as a cross-

section convex shape with the resin for the edge portions which is formed as a cross-section concave shape.

Wenz Jr. does not disclose the claimed process.

First, Wenz Jr. does not forming a thermoplastic film with two or more materials side-by-side across the width of the film. *See* col. 2, lines 14-18. Thus, Wenz Jr. does not disclose a second resin that encloses the first resin only at both sides of the first resin. For example, in Figures 1-3 and 6-14, material A is fed only on one side of material B.

Second, Figure 4 depicts a material B in the center and material A on both sides of material B. However, Figure 4 shows materials A and B commingling and joined together. Specifically, Wenz Jr. discloses that a separate feed port 30 can be provided for feeding molten material B beneath the horseshoe shaped barrier, wherein it can be intermixed in teardrop area 26 with a molten feed A issuing from the die input manifold 22. *See* col. 6, lines 54-62. Thus, "commingling" of the materials taught by Wenz Jr. is different from "enclosing" of the present invention.

Third, there is a barrier 24, which is disclosed as being able to be extended the entire length of the entry manifold to the teardrop area in order to separate the material A and B from little or no overlap or intermixing of the flows. *See* col. 3, lines 21-24. However, in such situation, the material A does not enclose the side edge of material B. Indeed, Wenz Jr. discloses that the edge perpendicular to the flow may affect the overlap between the materials, Wenz Jr. does not disclose that the longitudinal shape of barrier 24 is anything but flat, and particularly does not disclose a shape that would result in the material A enclosing material B at its edges in a concave shape. That is, Wenz Jr. discloses that the shape of the barrier will

influence the degree of overlap or intermix, but does not teach that the shape of the barrier affects the shape of the overlap such that it results in a concave/convex shape.

Finally, Wenz Jr. does not disclose the claimed feeding block having the particular structure such that the second resin encloses only both side edges of the first resin which is formed as a cross-section convex shape with the second resin is formed as a cross-section concave shape.

For at least the above reasons, Wenz Jr. does not disclose the step of joining the first resin and the second resin in such a manner as to enclose only both side edges in the crosswise direction of the first resin for the middle portion which is formed as a cross-section convex shape with the second resin for the edge portions which is formed as a cross-section concave shape, as recited in claim 1.

Accordingly, it is respectfully submitted that claims 1-5 are patentable over Wenz Jr., and withdrawal of the rejection is respectfully requested.

II. Response to Rejection of Claims 1-5 under 35 U.S.C. § 103(a)

Claims 1-5 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Peiffer et al. (US 5,716,570) in view of Wenz Jr.

Applicants respectfully traverse the rejection.

The Examiner acknowledges that Peiffer does not teach that the main resin has a convex shape and the side edge resin has a concave shape. To cure the deficiencies, the Examiner relies on Wenz Jr. as teaching a method of side-by-side co-extrusion to form a film where the shape of the interface between the resins is controlled and adjusted as required to achieve a desired appearance. The Examiner takes the position that it would have been

obvious to one of ordinary skill in the art to modify Peiffer to optimize the shape of the interface between the resins.

Peiffer does not disclose joining polymer B and polymer A in a manner such that both side edges of polymer B are enclosed by polymer A. In addition, Peiffer does not specifically disclose or mention the shape of the cross-section where the polymer B and polymer A are joined. In addition, based on, for example, Fig. 3 of Peiffer, it appears that the polymer A does not enclose polymer B.

In addition, for the reasons discussed above, Wenz Jr. does not cure the deficiencies of Peiffer. Accordingly, even if the references were somehow combined, the combination would not result in the present invention of claim 1.

Thus, it is respectfully submitted that the present invention is not taught or suggested by the cited references, and that claims 1-5 are patentable.

In view of the above, withdrawal of the rejection is respectfully requested.

III. Rejection of Claims 1, 2 and 4 under 35 U.S.C. § 103(a)

Claims 1, 2 and 4 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Peiffer in view of Nishimoto et al. (US 4,265,693).

Applicants respectfully traverse the rejection.

As discussed above, Peiffer does not disclose that the main resin has a convex shape and the side edge resin has a concave shape. To cure the deficiencies of Peiffer, the Examiner relies on Nishimoto as teaching an extrusion method for producing a film where the material that is more spreadable/less viscous is formed in a convex shape and the other material is formed in a concave shape to provide a uniform material upon extrusion through the die. *See*

col. 2, lines 17-30. Thus, the Examiner takes the position that it would have been obvious to one of ordinary skill in the art to modify the method of Peiffer to control the shape of the materials for the purpose of promoting a uniform material upon extrusion through the die.

Nishimoto does not disclose arranging the second resin for the edge portions on both sides in the width direction of the first resin for the middle portion, but relates to manufacturing a multi-layered sheet by laminating resins in a thickness direction. Specifically, Nishimoto discloses, at column 2, lines 17-29 (emphasis added) that:

It is therefore desired, where resin layers much different in spreadability are joined and laminated, to form a more spreadable resin layer into a convexed layer with a thick ***middle portion*** and a thin edge portion and, if required, to form a less spreadable resin layer into a concaved layer with a thin ***middle portion***, vice versa, so that the thickness ratio for each of the resin layers may be unified through the flow in the die. More specifically, for the cross sectional ratio between the adjacent resin layers at the joining point, the ratio of the more spreadable resin layer to the less spreadable resin layer is made greater at the ***middle portion*** than at the side edge.

Thus, Nishimoto discloses that the middle portions have a concave or convex shape, but does not disclose that the edge portions of the resins have a convex/concave shape. In addition, Nishimoto discloses a concave/convex structure for the resin layers so that when the layers go through the die, the thicknesses of the resin layers are uniform.

Thus, even if the references were combined, the combination would not result in the present invention of claim 1.

Accordingly, it is respectfully submitted that the present invention is not taught or suggested by the cited references, and that claims 1, 2 and 4 are patentable.

In view of the above, withdrawal of the rejection is respectfully requested.

IV. Response to Rejection of Claims 1, 3 and 4 under 35 U.S.C. § 103(a)

Claims 1, 3, and 4 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Hoagland et al. (US 3,825,383) in view of Peiffer et al.

Applicants respectfully traverse the rejection.

As noted above, claim 1 recites "joining the first resin and the second resin in such a manner as to enclose **only** both side edges in the crosswise direction of the first resin for the middle portion which is formed as a cross-section convex shape with the second resin for the edge portions which is formed as a cross-section concave shape".

In contrast, Hoagland teaches forming a multi-layered film where a first resin and second resin are extruded as layers, and for example, the second resin is formed on the main body surfaces of the first resin. Thus, Hoagland does not disclose enclosing only both side edges in the crosswise direction of the first resin.

In addition, Peiffer does not cure the deficiencies of Hoagland for the reasons discussed above.

Thus, even if Hoagland and Peiffer were combined, the combination would not result in the present invention of claim 1.

Accordingly, it is respectfully submitted that the present invention is not taught or suggested by the cited references, and that claims 1, 3 and 4 are patentable.

In view of the above, withdrawal of the rejection is respectfully requested.

V. Conclusion

For the foregoing reasons, reconsideration and allowance of claims 1-5 is respectfully requested.

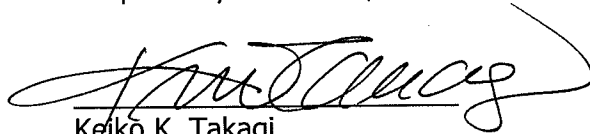
AMENDMENT UNDER 37 C.F.R. § 1.116
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If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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